EXPLORING NEW FORMS IN THE VISUAL ARTS THROUGH THE USE OF ELECTRONIC TOOLS: AN ESSAY ON ELECTRONIC IMAGE CREATION AND PROCESSING

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I. INTRODUCTION

In our videotape, "RENOVATIONS: GETTING ON" (6 minutes,1981), Alan speaks the closing line; " We are two artists sharing the same paintbrush." He is speaking metaphorically to describe our collaboration, but his words are also quite literally true. The paintbrush, however, is the stylus connected to a graphics computer or the joystick controlling a video switcher. We are electronic image makers and ours is a studio of video recording equipment, electronic signal processing devices, a microcomputer and an audio synthesizer. Our art work takes many forms from single channel videotapes to sculptural multi-channel video installations; from photographic color video stills to computer generated and/or enhanced black and white dot matrix prints. Most of our work is collaborative. For years we have been sharing responses to life, comparing interpretations of experience, and exchanging images and ideas. Through the use of electronic tools we have found the medium to express our jointly held belief in the pluralism of reality.

II. TECHNOLOGY

Technology is of great importance in our image making but also poses a serious dilemma. The development of electronic technologies has made it possible to create previously unknown visual, aural, and rhythmic structures, but the frequent rate of change and escalating costs of the tools often puts them well outside our economic reach.

Techniques which took many hours to employ just a year ago can now be done technically better, with far greater control and in a fraction of the former time. I'm refering to such innovations as the image paint systems for video graphics and animation and digital storage capabilities for images and sound. The difficulty is how to have regular access and a degree of technical literacy with these tools while maintaining our conceptual focus and identities as artists. For years we have straddled the barriers between commercial facilities, academic institutions and engineering language.

Solutions have come from several different sources. The Experimental Television Center in Owego, New York offered artists residencies to work with concepts of electronic image processing, providing a number of analog imaging devices as well as a microcomputer which serves as both image generator and controller. In Philadelphia, where we have lived since 1978, we found a very active Industrial video market which provided freelance employment and the opportunity to work with state of the art broadcast tools. Artist residencies at the now defunct SYNAPSE Video Center of Syracuse University and the Artists Television Workshop of WXXI-TV 21 in Rochester, New York provided additional experience with broadcast post production facilities. Each facility offered unique equipment but also quite divergent points of view. Our involvement with each contributed to the formation of a personal approach to videography and electronic imaging and the subsequent design of our own studio.

An amalgamation of 'low tech' and 'high tech' was born of necessity and we have nurtured it. Our work synthesizes 1/2 inch VHS, 3/4 inch and one inch type "C" video formats (1) - analog techniques blend with digital graphics and animation. It is difficult to distinquish where one thing ends and another begins. We modify the tools and vocabulary of television to facilitate our personal examination of

social mythology.

III. PROCESS

I like to describe our electronic imaging as being reflective of Poetry and Painting, while still being firmly anchored in the practices of traditional Telecommunications. We put tremendous thought into the delineation of nearly every frame of video. To be concerned with the single frame - one thirtieth of a second - might appear contrary to the quick and fluid aspect of telecommunications. Digital video technology has made it possible to gain control over single fields of video - one sixtieth of a second - and through using this technology in one inch video post production we have developed an interest in the subtleties and subliminal power inherent in the single video frame. Juxtapositions of image to image, when removed from the contexts of time and linear motion, provide revelations of meaning. Consequently we have been experimenting with serial images taken from tape or computer and realigning them to exploit new associations of pictoral relationships. This has affected all of our current work but is very clearly evident in our photographic stills and computer prints. Through this experimentation Alan and I have discovered fresh perspectives and insights into the reading of an image and the meaning of our personal metaphor.

IV. SINGLE CHANNEL VIDEOTAPES

Our orientation grows from a strong visual arts foundation with some differences between us. My background is in textiles, printmaking and graphics, while Alan's interests have tended more to sculpture and electronic music. We seldom repeat a subject but often pursue a technique into another work when we find it enhances our theme or provokes a particular psychic response in the viewer. Often

our tapes are visually dense; the accumulative effect of which serves to leave a mental imprint, and though not intentionally ambiguous, this density allows for reading our work in multiple ways. We seek out the real and the ridiculous, often using humor for punctuation. The erotic is also a strong underlying element, directly exploited in our tape "HOT PINK (3.5 minutes, 1981). The viewer wonders what he is actually seeing in this playfully erotic sequence of lips, fingers and tongues. By using oscillators (2) to trigger switching between the actions of male and female mouths etc., the viewer's imagination and anticipation is heightened. The final edit uses speed control to slowly increase the pace of the imaging. The sound track, which was made separately, is used to drive colorizers (3), painting a wash of hot pinks and oranges over the original black and white video image. The final result is an unexpected mixture of highly processed, fast paced images with a very direct organic quality. "HOT PINK" marks both an end and a beginning for us in that it is the last tape we produced at the Experimental Television Center completely uninfluenced by digital tools.

"WEIGHTLESS" (3 minutes, 1981) is the first computer influenced piece, made with a black and white frame buffer. (4) We were interested in exploring the contrast between male and female rhythm, in this instance the differences in calisthenic exercises before the camera. The male lunges his body in push-ups and sit-ups, shouting numbers in the fifties, while the female sits cross-legged and rocks forward, backward, sideways, counting from one. The frame buffer was used to hold then release single still frames of black and white video while superimposing the direct camera image of the same action. Slow motion enhances certain movements and the audio. The low resolution of the black and white digital image adds a strong graphic quality while the timing distortions provide gentle humor. The effect is some-

what like a newspaper photo come to life in distorted timing.

Having become accustomed to the look of a digital image through making "WEIGHTLESS" we decided to elaborate and take it even further. "SATURDAY NIGHT" (4 minutes, 1982) makes use of another digital tool, the Quantel Squeeze Zoom. We were intriqued with this machine's ability to expand a video image, magnifying pixels,(5) and also the possibilities of moving around the image after it is recorded. Our concept was to create an environment for memory, to capture a peculiar feeling of ennui that pervades my memories of adolescence. Alan hand held the camera, moving around my body as I was dressing and combing my hair. The camera's picture was fed into the frame buffer and then taken through colorizers being controlled with changing oscillations. The staccato images recorded this way were then reanimated, actually choreographed, by using the squeeze zoom to move into certain sections of the tape. The magnification and slow zooming return the feeling of real time movement while the colorization of the digital image is reminiscent of a Seurat painting. The result is highly sensuous and impressionistic, qualities further enhanced by the haunting sound track composed by Gareth Downs.

"THROUGH THE RABBIT HOLE" (7 minutes, 1982) is also the recreation of memory and psychological experience. In this piece a sequencer (6) was used to alternate vertically rolling bars across the raster (7) which switch between a pre-recorded image and a live camera image. On camera, Alan recounts the story of his thirtieth birthday party which he celebrated by eating a psychotropic mushroom omelet. His pre-recorded story is played against his live retelling of the same tale with the sequencer rolling the two versions together. At times he is out of sequence with himself while at other times he is perfectly synchronized. The audio track works in the same way but we play with mixing to emphasize certain phrasing, giving the

piece an evocative feeling of changing realities. The video feels much like the original experience.

At the time we were making these tapes we were also at work on a much more demanding and complex tape titled "RADIATION THERAPY" (15 minutes, 1983). It took two years to make and finally became structured in the form of four video vignettes - each one a musing into some aspect of living within a nuclear shrouded society. The piece begins with SUPPLY SIDE ECONOMICS in which a tug-of-war is in progress between a woman and a dog over a pork chop. Although primarily a black and white image, a brilliant red is keyed (8) into the disputed pork chop. The soundtrack is a combination of sounds from an old fashioned adding machine, computer produced bleeps made by software that responds to contrast and motion within the video image, and a section of audio taken from the PBS Television Program "Wall Street Week". The remark is made that there are three basic human emotions: "fear, greed, and the urge to get even". ACID RAIN follows and is produced along the lines of a music video. A rock song titled "My Geography" by Greg Baxter and Stephan Spera establishes the pace for wobbulating (9) buildings, electronic totem poles made of female breasts, city pavement aglow with intense pulsating colors and a civic monument self-destructing by electronic dissolution. This leads into MELTDOWN where the images are formed completely by synthesis of the video signal. We wanted to express the bizarre dichotomy in our nuclear culture, ie. man's curiosity and arrogance tempting and seducing him into using the technology which courts self annihilation, but wanted to avoid images with a pre-established socio-political bias, such as the atomic bomb footage from the 1950s. So we released the video signal, exaggerated it with oscillators and colorizers then fed this material through the ADO (Ampex Digital Optics). The video is literally stretched to the limits of the computer's ability to

interpret the signal and it proceeds to loop back upon itself in digital feedback. The viewer is drawn into the compelling evolution of the video, swept up by exploding zigzags and throbbing avocado-like shapes. "RADIATION THERAPY" concludes with SAINT VITUS'S DANCE. Appropriated black and white footage from an old promotional travel film was recolored, enlarged, reversed, and put into various degrees of slow motion. The 'dance' is performed by mine workers, rodeo clowns, skiers and finally, by children depicting the remnants of the nuclear family.

The tape "ALGEBRA AND OTHER MENSTRUAL CONFUSIONS" (7.5 minutes, 1984) was created in response to the Technophobia suffered by so many people (especially women) in this culture. Algebraic word problems are illustrated by images manipulated with a myriad of analog and digital processing tools. (10) As an answer to each problem there is an electronically drawn yellow note page with insets of photos taken from adolescence, with a woman's voice recalling her memories of high school and the awareness of her budding sensuality. A man's patronizing reading of the math problems represents his mechanistic approach to control of the physical world. This is set in extreme opposition to the young woman's developing awareness of nature's power. The conclusions are left for the viewer to draw.

V. INSTALLATIONS

In single channel tapes there are always inherent limitations: the linear and sequential character of tape, and undetermined exhibition spaces that run the gamut from formal museum settings and disco's super projectors to the casual informality of a living room. With video installations we can present physical surroundings in which the monitor and video image work as sculptural metaphor. The environment can extend the context of a work, allowing it to

take on a much broader meaning while engaging the viewer as an active participant in the work.

We have been working for some time on a large installation series titled "NEGOTIATIONS FOR A HEAVEN ON EARTH". When completed it will have a number of individual units, each self-contained module directly relates to all the others. All will use the television as a delivery medium influencing awareness and subliminally dictating ideals of happiness, success, sanctity and power. The viewer will be invited to stroll through the settings, interacting at will with any or all of the modules.

THREATS, completed in May of 1985, presents a comfortable living room complete with easy chair, ottoman, cheerful wallpaper, paintings and television set. One is invited to sit down, put his feet up and watch ten minutes of psychological intimidation and physical violence culled from tv news programs, prime time, soap operas and real life. Our premise suggests that not even in the sanctity of the home (a heaven if you will) can one escape the conflicts, intimidations and threats of the world outside. The television has become the window which intertwines life and fiction to such a degree that it is difficult to distinquish one from the other. Perhaps even more alarming is the fact that we have come to accept the levels of violent behavior as normal.

Three more sections are nearing completion; MEMORY, DESIRES AND PROMISES. MEMORY addresses our nostalgia for the past whether it be the 1950s episodes of family sitcoms like "Leave It To Beaver" and "Ozzie and Harriet" or the soothing pre-industrial America rooted in a 'democratic agrarian society' as exemplified by the Wild West American Cowboy of Saturday morning t.v. DESIRES addresses the 'grass is always greener' impulses fueled by commercials selling ideals of a better anything than what we have or can afford. PROMISES invites

the audience to be seated in metal folding chairs placed in front of a speaker's podium. At head level behind the podium is a nineteen inch t.v. monitor. On the screen a man is speaking - at once a cleric, a politician, a corporate vice president. The message is clear....he has the answers, he alone knows the truth. Does it matter that we have difficulty deciding which personna is speaking?

VI. CONCLUSION

In the early 1970s writer Elizabeth Janeway made the following observations concerning the role of the artist: (11)

"There is no turning back. The movements to revive old skills and to live according to old work patterns are exercises in nostalgia. Certainly we want to preserve the human knowledge of past technologies and processes; I think they had great value, particularly the value of teaching slow workings of process and of close relationships with other humans, with animals, with the natural world. But we can no longer live by them, except in priviledged enclaves. The artists who today are confronting the age of mechanical man are closer to the truth than those - artists or not - who are retreating into past truths. The machine can't be dropped out, nor can we go on as we are, divided. The huge and challenging task for art today is to humanize the machine. We have to leap off the place we stand now, catch at the spiky monstrosities spawned by technology and learn how to integrate them into a human world, how to make them not only useful but truly expressive of meaning. They are not functional until they become so."

I recently came upon this passage and was impressed by how relevant Ms. Janeway's words continue to be. We have moved from the Mechanical Age into a Post Industrial era of the Information Age yet with all the electronic networks intended to bring us closer together

we appear to be even more isolated, still divided. Alan and I have chosen to work with the technology, to use it to communicate the human condition. We seek to understand our differences and the forces that keep us divided.

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REFERENCES AND NOTES

1. One inch type "C" is the current American standard for Broadcast quality video production. 1/2 inch VHS is considered an inexpensive consumer format while 3/4 inch has for some time been the accepted standard for Industrial production and Art Video.

2. An oscillator generates a basic wave form which in this case is used as a control voltage. It is used to control or alter some parameter of the video or audio electronic signal.

3. A colorizer is an electronic device which adds color to the grey scale of a black and white video image.

4. Frame buffers can come in many forms but are basically a memory location within a computer that is assigned the function of capturing and storing single frames of video.

5. Pixel refers to the smallest individual picture element that is displayed on a video monitor.

6. A series of electronic input signals are triggered to go to specific output locations in a programmable time sequence - thus a sequencer.

7. The raster is a vacuum tube display surface for an electronically generated picture.

8. A key is an electronic device that can distinquish individual areas of grey within a video image and allow for another source such as a color or different video picture to be placed within

the selected grey area.

9. Wobbulating refers to a unique swaying motion that happens when an electro-magnet is wrapped around a television raster. It is controllable by voltages which manipulate the character of the wobbulation. Nam June Paik assigned the name Wobbulator to this device and originally used it in his "Electronic Opera".

10. This videotape is included in the book "VIDEO CLASSICS" by Deirdre Boyle. ORYX PRESS Arizona 1986 pp. 4-5
For another review refer to "SIGHTLINES" magazine Volume 19, No.2 Winter 1985/86 page 5 - Video Playback: Men and Women on Tape by Deirdre Boyle.

11. Elizabeth Janeway, BETWEEN MYTH AND MORNING Women Awakening William Morrow & Company, Inc. New York 1974 pp. 165-166